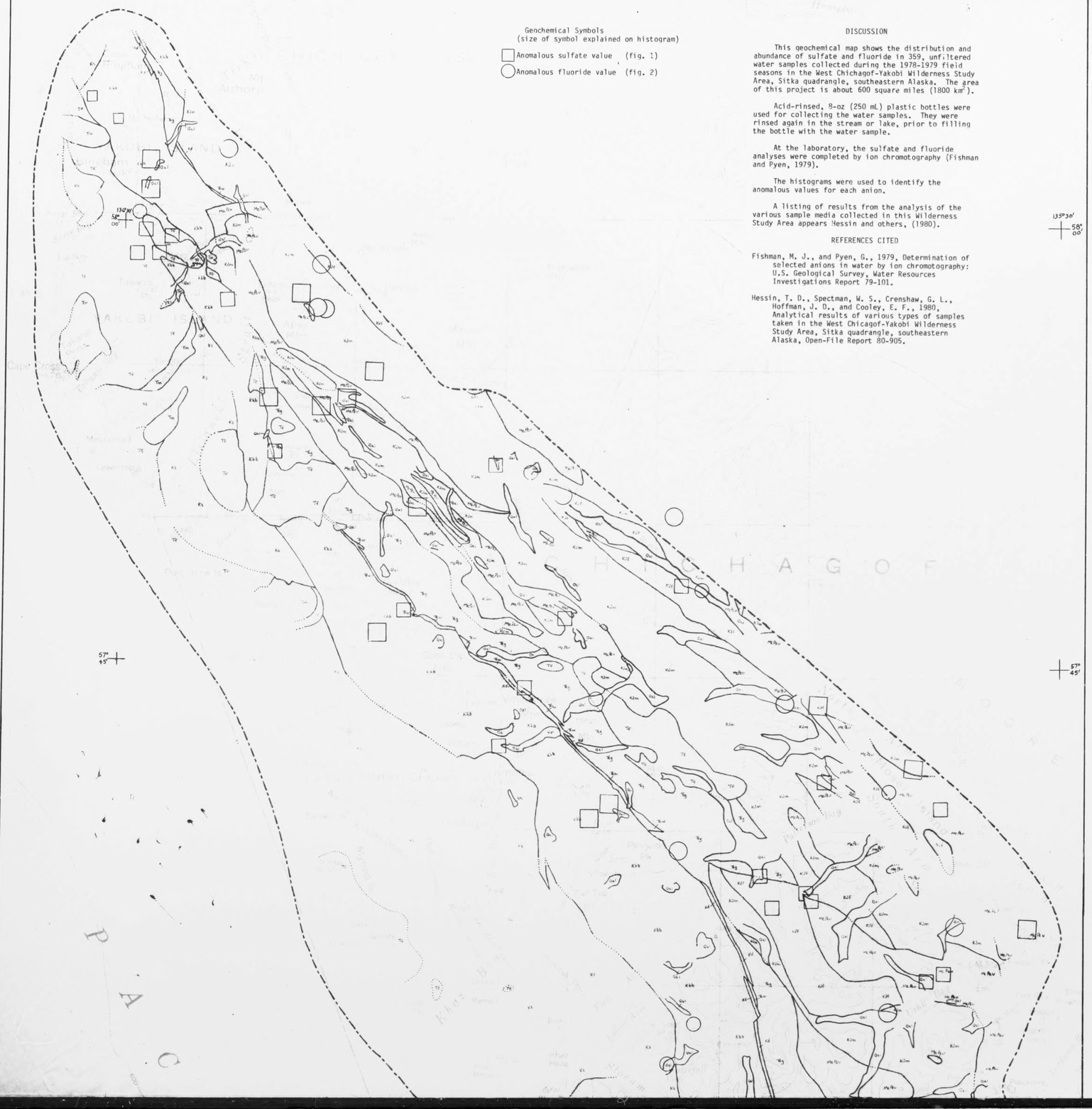
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

OPEN-FILE REPORT
81-27-P



Geochemical Symbols
(size of symbol explained on histogram)

□ Anomalous sulfate value (fig. 1)

○ Anomalous fluoride value (fig. 2)

DISCUSSION

This geochemical map shows the distribution and abundance of sulfate and fluoride in 359, unfiltered water samples collected during the 1978-1979 field seasons in the West Chichagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska. The area of this project is about 600 square miles (1800 km²).

Acid-rinsed, 8-oz (250 mL) plastic bottles were used for collecting the water samples. They were rinsed again in the stream or lake, prior to filling the bottle with the water sample.

At the laboratory, the sulfate and fluoride analyses were completed by ion chromotography (Fishman and Pyen, 1979).

The histograms were used to identify the anomalous values for each anion.

A listing of results from the analysis of the various sample media collected in this Wilderness Study Area appears Hessin and others, (1980).

REFERENCES CITED

Fishman, M. J., and Pyen, G., 1979, Determination of selected anions in water by ion chromotography: U.S. Geological Survey, Water Resources Investigations Report 79-101.

Hessin, T. D., Spectman, W. S., Crenshaw, G. L., Hoffman, J. D., and Cooley, E. F., 1980, Analytical results of various types of samples taken in the West Chicagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska, Open-File Report 80-905.

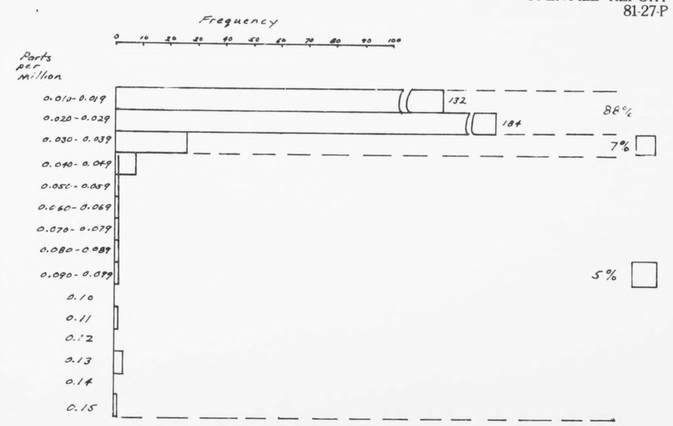


Figure 1.--Histogram showing sulfate in 359, unfiltered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by ion chromotography, (Fishman and Pyen, 1979). Circles indicate anomalous concentrations and class percentages computed on total sample population.

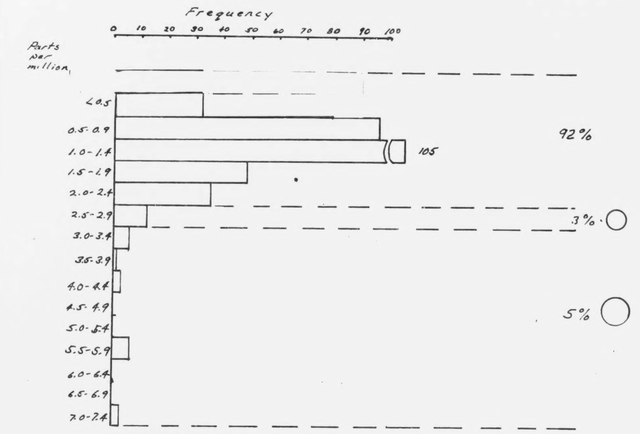


Figure 2.--Histogram showing fluoride in 359, unfiltered water samples from the West Chichagof-Yakobi Wilderness Study Area. Analysis by ion chromotography (Fishman and Pyen, 1979). Squares indicate anomalous concentrations and class percentages computed on total sample population.

CORRELATION OF MAP UNITS

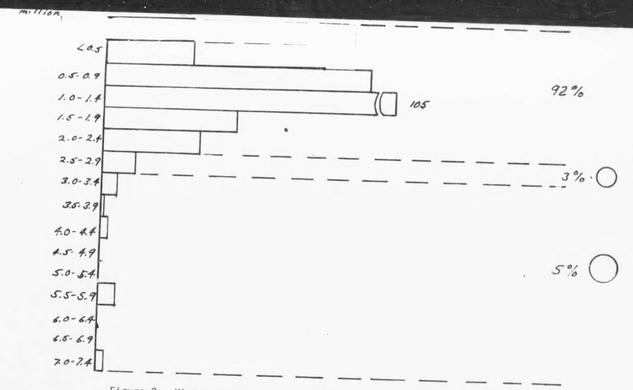
Qal	QUATERNARY
Tf, Tm	TERTIARY(?)
Kd	CRETACEOUS(?)
Ks	CRETACEOUS
Kkb	CRETACEOUS
KJf, KJm	CRETACEOUS AND JURASSIC
Trv	TRIASSIC(?)
Trg	TRIASSIC(?)
MzPzu	MESOZOIC AND PALEOZOIC(?)

LIST OF MAP UNITS

Qal	ALLUVIAL DEPOSITS--Undivided
Tf	FELSIC PLUTONIC ROCKS--Dominantly tonalitic
Tm	MAFIC PLUTONIC ROCKS--Dominantly gabbroic
Kd	DIORITE SILL--Extensively altered
Ks	SITKA GRAYWACKE
Kkb	KELP BAY GROUP--Metasediments and metavolcanics
KJf	FELSIC PLUTONIC ROCKS--Dominantly granodiorite
KJm	MAFIC PLUTONIC ROCKS--Dominantly quartz diorite, diorite, and gabbro
Trv	WHITESTRIPE MARBLE
Trg	COON DIP GREENSTONE
MzPzu	UNDIVIDED METASEDIMENTARY--Metavolcanic and metaplutonic rocks

Base from U. S. Geological Survey 1:250,000, 1951
Sitka; Mt. Fairweather

Geology simplified by B. R. Johnson and S. M. Karl, 1981



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Studies Related to Wilderness

The Wilderness Act (Public Law 88-577, Sept. 3, 1964) and related Acts require the U.S. Geological Survey to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the West Chicagof-Yakobi Wilderness Study Area, Sitka quadrangle, southeastern Alaska.

GEOCHEMICAL MAP SHOWING THE DISTRIBUTION AND ABUNDANCE OF SULFATE AND FLUORIDE IN UNFILTERED WATER SAMPLES IN THE WEST CHICHAGOF-YAKOBI WILDERNESS STUDY AREA, SITKA QUADRANGLE, SOUTHEASTERN ALASKA

By
T.D. Hessin and G.L. Crenshaw
1981